

ABSTRACT

The present invention provides ultralow carbon thin gauge steel sheet and a method for producing the same where coalescence and growth of inclusions in the molten steel are prevented and the inclusions are finely dispersed in the steel sheet, whereby surface defects and cracks at the time of press forming are prevented, growth of recrystallized grains at the time of continuous annealing is promoted, and a high r value ($r \text{ value} \geq 2.0$) and elongation (total elongation $\geq 50\%$) are exhibited, that is, ultralow carbon thin gauge steel sheet excellent in surface conditions, formability, and workability comprised of, by mass%, $0.0003\% \leq C \leq 0.003\%$, $Si \leq 0.01\%$, $Mn \leq 0.1\%$, $P \leq 0.02\%$, $S \leq 0.01\%$, $0.0005\% \leq N \leq 0.0025\%$, $0.01\% \leq \text{acid soluble Ti} \leq 0.07\%$, acid soluble Al $\leq 0.003\%$, and $0.002\% \leq La + Ce + Nd \leq 0.02\%$ and a balance of iron and unavoidable impurities, said steel sheet characterized by containing at least cerium oxysulfite, lanthanum oxysulfite, and neodymium oxysulfite.